WEEDS and TURF PEST CONTROL

JUNE 1963

Monthly news for contract sprayers of weeds, turf, ornamentals, and trees

Railway Weed Control:

W&T's Market Survey Shows Contract Applicators Have Nearly Half of the Railroad Vegetation Management Jobs

Special report begins on page W-6

Russian Knapweed Is This Month's Weed Box . . W-16

How to Get Nursery Business . . W-8

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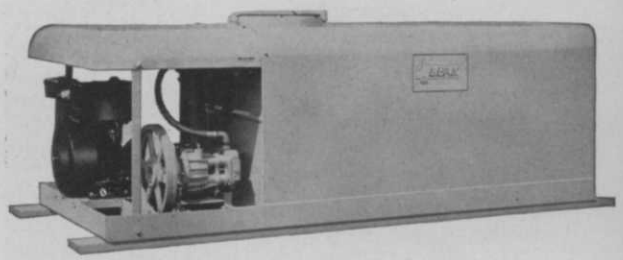

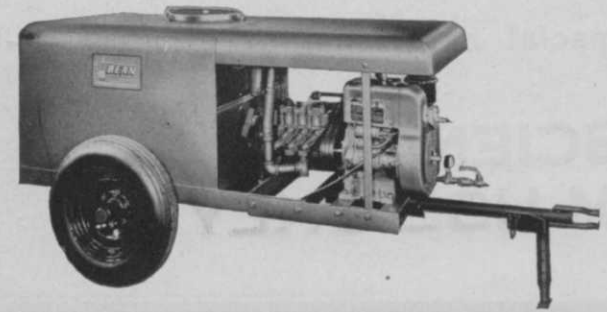

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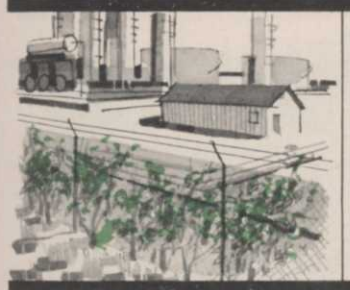

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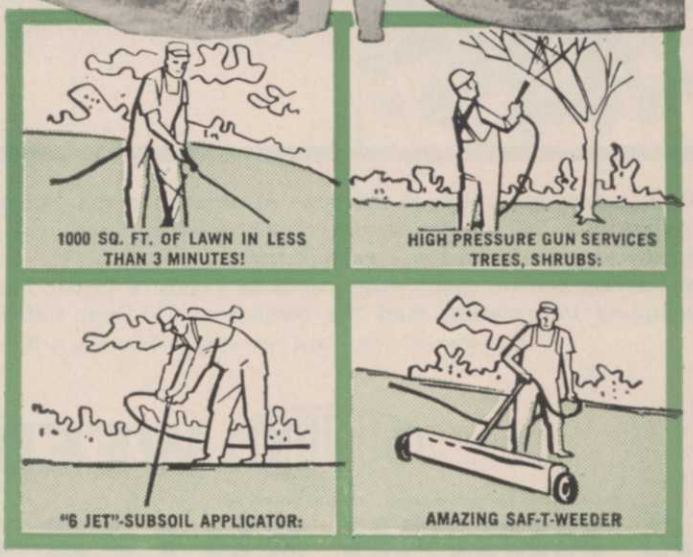
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WEEDS and TURF PEST CONTROL
A SECTION OF PEST CONTROL MAGAZINE

June, 1963

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JAMES A. NELSON
Publisher

CHARLES D. WEBB
Editor

WALLIS W. WOOD
Editorial Assistant

DAVID E. SCHNEIDER
Staff Biologist

R. J. HOFFER
Circulation Manager

●

Advertising Representatives
National Headquarters
1900 Euclid Avenue
Cleveland 15, Ohio
Phone: Area Code: 216 + 771-4169

New York City
Billingslea & Ficke
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What do you need to know?

America's contract applicators of weed control and turf spraying chemicals are constantly and rapidly growing in educational level and technical proficiency.

But the goal of a "totally prepared" operator is like the horizon, which slips away even as we approach it.

This is as it should be, for knowledge, especially science, is a continuous thing. For this reason CAs should take note of the research underway in the university laboratory, in suppliers' research and development departments, and in government investigations.

But to take note is not enough. Since the contract spraying business is just now coming into its own, it is necessary that every sprayman explain his field problems to the university, the supplier, the federal extension agent.

These scientists are astute, clever men, but being human they can't be everywhere at once. So they can't be aware of all the latest problems in the practical side of the industry unless operators take the time and energy to tell researchers what the most troublesome problems are.

It is a must to establish clear definitions of what the research needs of this industry are. Until there are definitions of industry problems which spell out specific courses of action for the men in the laboratory, many of the CAs' questions will go unanswered.

Next time CAs get together to talk over their mutual problems, why not take time to jot down a few concrete suggestions for avenues of research? This list could then be sent to the state university, or to a supplier who is known to conduct helpful research projects. Or you can send them to us for forwarding.

Whichever route is chosen, CAs should not stand mute about their problems. These researchers are anxious to help, and welcome a guideline to more useful studies.

Contents of this Issue © Trade Magazines, Inc., 1963

Survey Shows Contractors Get Nearly Half of Railway Weed Control Jobs

Dormant cane broadcast is a relatively new process which makes it possible for applicators to kill undesirable growth during the winter season when vegetation is not growing. This crew is testing Diamond Alkali's Dacamine for winter treatment.

AMERICA'S profit-hungry railroads, whose frugal search for cost-cutting practices is legendary, are currently waging a nip-and-tuck battle between red ink and black.

Faced with ever-diminishing profits, it's small wonder that most railways are currently taking a close look at weed and brush control expenses along the nation's far-flung rights-of-way.

Weedkilling and brush control have long been a railroader's headache, even when profits were abundant. Before the advent of chemical controls, costly hand mowing took a sizable chunk out of every maintenance supervisor's budget, which had to be accounted for by whittling other services, or by settling for less-than-desirable weed and brush conditions.

Why are the railways so concerned about rampant vegetation? Obviously, safety and visibility are of prime concern. Weeds and brush obscure the engineer's view, hide lights and other warning signs, and have even been known to scuttle automatic switches.

Apart from these crucial aspects, though, are the actual expenses of maintaining track and roadbed. Good weed and brush control has been shown to be instrumental in reducing frequency of track resurfacing. Even reballasting has been less a problem in areas where effective vegetation management has been realized.

What does all this mean to the contract applicator? It means a great deal of lucrative business. *Weeds and Turf* has just completed a nationwide survey of weed control practices on American railways with over 100 miles of track. Our researchers found that a whopping 60% of these rail companies use contract applicators for some part of their vegetation control program.

More significantly, we found that of all the work actually performed (by all railways with more than 100 miles of track) 47% is contracted to professional applicating firms. Some of these CAs are large, multibranch companies, such as "tree expert" corporations. Others are medium-sized operations with localized clientele. Others are small operators whose participation in track spraying may be limited to local yards and sidings.

There are even a few firms which specialize almost solely in railroads.

Why are so many railroads turning to contractors for this important facet of maintenance? There are several reasons. Commonly cited in the past were the facts that CAs can more effectively program a continuous control plan (railway crews are often tied up with other projects, or may be called from a job by dozens of unexpected emergencies). Working under yearly contracts, these applicators can be on the job when needed and can realize maximum efficiency and use of time.

CAs, too, already have specialized equipment. Sprayers, pumps, booms, wands, nozzles, drums, and the countless accoutrements a sprayman numbers among his everyday tools, are not always easy to come by in the average railroad shop.

Same is true of personnel. Com-

panies whose sole business is application of weed and brush killing chemicals have on hand skilled, capable men who devote all their working hours to a single practice.

But two additional factors are becoming increasingly important. First, our survey revealed that the average cost per mile for vegetation control by contractors is substantially lower than the cost per mile of jobs carried out by the railroad crews. Table 1 gives an analysis of these costs. Average expense per mile for contracted control work is $59. It costs the railroads $89 per mile to do the same thing!

These figures are based on detailed data furnished the *Weeds and Turf* research staff by 53 railroads (questionnaires were mailed to over 200 carriers).

A second, and much newer reason for turning to contractors, is the furor over use of pesticides which recently has erupted into the nation's favorite topic at town forums, legislative sessions, even cocktail parties. When the public is leary of any kind of chemical pesticide, many progressive railroaders realize it is best to hire a skilled, licensed, educated professional to handle these controversial chemicals. And of course, CAs have adequate insurance coverage which they've been able to procure because of their safety records and hard-won skill with toxic compounds.

All the above points are good sales ammunition for the CA who wants to train his guns on this enormous market and opportunity for expansion of services.

What Railway Jobs Entail

What does railway rights-of-way spraying involve? One service, with which CAs are of course familiar, is soil sterilization of roadbeds and areas around switches, fences, warning lights, etc. Chemicals used are essentially the same ones CAs are already stocking for their industrial plant weed control jobs and for highway work (see *W&T*, Jan. '63, p. W-10). This is a very big slice of the railroads' requirements.

Another important activity is nonselective, post-emergence weed control which attempts to kill weeds and brush alongside roadbeds. Sometimes a selective herbicide is used so that objectionable growth is destroyed, but enough ground cover remains to prevent dangerous erosion and landslides.

In many sections along the miles of track, brush control is of primary concern, especially in isolated areas where encroaching plants may actually interfere with the operation of trains.

A more recent concept is dormant application, in which chemicals are applied during the "dead" season when plants are not growing. This method effects control for the coming growing season.

Some CAs may be active in only one of these techniques, while others include all services in their sales dossier.

What Equipment Is Needed?

Variety of vegetation control practices, obviously, determines the kind of equipment contract applicators need. For roadbed sterilization, special sprayers and booms mounted on railway cars are frequently employed. For off-track areas, these same spray rigs can be adapted to project a stream of chemical along the right-of-way with extreme accuracy. These machines are expensive, and usually are found among the larger, more diversified spray operators.

Recently the advent of the helicopter and the small, maneuverable spray plane have simplified and speeded up broadscale weed and brush control campaigns.

Standard spray rigs, such as a CA may be using on highway jobs, can be made portable, and can be mounted on flat-bed cars for specialized contracts.

In yards, sidings, and other limited areas, the back-mounted knapsack-type sprayer is frequently put to work. This gives the sprayman extreme flexibility, and is especially useful for touch-up jobs, or very small contracts.

Whatever the machine employed, it is apparent that equipment is basically the same in principle as spray applicators CAs have been using for a long time. This familiarity with equipment is another reason so many contractors are successful in railroad work.

Just how does the railway weed control market line up? Results of the *W&T* survey show that the average American railroad

Table 1. Analysis of Railway Weed and Brush Control Practices in the United States.

Miles of track and rights-of-way treated	1,463
Treatments per year	1+*
Percentage of total work performed by contractors	47%
Percentage of railways which use CAs to some degree	60%
Cost per mile for work done by railway crews	$89/mi.
Cost per mile for work done by contractors	$59/mi.
Average yearly amount spent by railways on chemicals	$100,000.00**
Average yearly amount spent by railways on equipment	$3,167.00***

* In southern and humid states, there may be 2 to 4 treatments annually.

** Does not include chemicals purchased by contract applicators.

***Does not include equipment purchased by the contract applicator.

This report based on a survey by *Weeds and Turf* researchers, who mailed questionnaires to over 200 railroads. 53 replied.

treats 1,463 miles of track (and its adjacent right-of-way) every year. Reports ranged from a road that treats 7,500 miles yearly, to some which spray under 100 miles. Most railroads have their track treated at least once a year.

As indicated earlier, 60% of the companies which reported their practices to *W&T* use contractors to some degree. Range of use was from 10% of total program to 100%. When these figures were averaged out with other available data, it was shown that nearly half (47%) of *all* the railway weed and brush control in the United States is performed by the contract applicator.

Table 1 gives an analysis of the facts which *W&T* researchers garnered. This information will be useful to sales managers who wish to analyze the market, either with an eye to increasing a company's share, or to entering the field for the first time.

Move Cautiously . . .

Whatever the position of any individual weed control company, it pays to enter this market for the first time with extreme care. Large-scale jobs require costly equipment. Many operators already possess such rigs, or at best have simple adaptations to perform. However, if getting a job means buying a complete new outfit,

(*Continued on page W-13*)

How to Get More Nursery, Ornamental Spraying Contracts

By DR. ROBERT SNETSINGER
Assistant Professor of Entomology
The Pennsylvania State University
University Park, Pennsylvania

THIS "New Frontier of Ornamental Pest Control" does *not* offer a ready-made opportunity for success to all who venture into this field. Only those operators who offer a convenient and economical service to the customer can hope for success in ornamental pest control. Custom sprayers, tree experts, and others also hope to develop this area.

A pest control operator or contract applicator *cannot* wait for emergency calls, but must seek out business opportunities if he expects to develop a program in ornamental pest control. He cannot expect to make a profit unless he has a considerable number of customers with the same problems, so that servicemen can become specialists and know what they are doing.

Perhaps the easiest way for a PCO to make a transition to ornamental pest control work is to provide this type of service for his present customers. For example, if he has a contract for roach control at a variety-store lunch counter, he might offer a monthly inspection and treatment service for the care of the potted-plant counter at this store.

About 40% of the ivy, philodendron, and other potted plants sold in variety stores are infested with two-spotted spider mites, scale insects, whiteflies, mealybugs, or aphids. These pests destroy $30 to $100 worth of plants per year per store and greatly reduce sales, because no one wants to buy sickly plants. Monthly inspections of the potted plants by servicemen trained to recognize ornamental pests would require about five minutes per visit, plus an additional ten minutes for treatments when required. This service to the store might net an additional $2 to $5 per call to the operator.

This type of inspection and service would also benefit many retail florists, supermarkets, and garden centers that handle plant materials but lack the knowledge, skill, and equipment to take care of their own pest control problems. Most florists with small and medium-sized greenhouses would be much better off if they would let a trained expert handle their pest control problems. They suffer 3 to 10% losses from pests each year because they fail to follow good pest control practices. A pest control operator or contract applicator with a knowledge of greenhouse crops could provide a real service to the floral industry. In fact, contracted pest control is already established in the California greenhouse industry.

Seek Florist, Nursery Jobs

I believe the time will come when pest control specialists will handle most of the pest control work for florists, mushroom growers, nurserymen, greenskeepers, fruit growers, and other horticulturists. These industries can no longer afford amateurs because of the value of the crops concerned and the hazards involved in the use of highly toxic pesticides.

Even the homeowner will have to face the fact that he cannot afford to endanger an investment of several thousand dollars worth of landscaping by allowing a novice to care for it. However, I think that the homeowner will offer a considerable challenge in selling the idea of contracted control. Probably the owners of apartment developments, factories, offices, etc., are more likely to see the advantages of contracted control at the beginning.

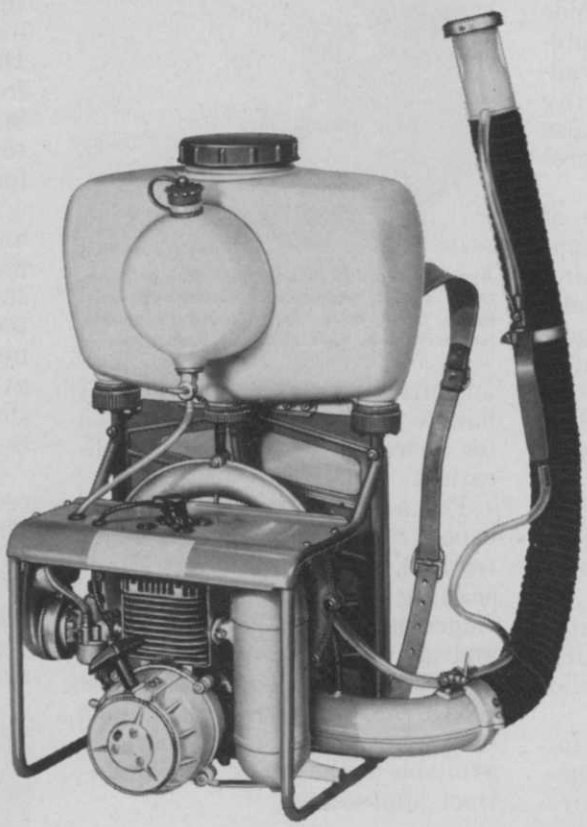
The homeowner is more likely to contact the PCO or CA "after the horse is stolen." A bagworm infestation is not usually reported until the shape of the tree is ruined or the tree is on the point of death. The operator must conduct an educational program in connection with the development of an ornamental pest control service.

One way to approach the homeowner is to establish a clinic for house plants. For example, one day a week he could invite the ladies to bring in their "sick" house plants for treatment. On clinic day the operator could premix 5-gallon pails of "dipping solutions" suitable for the control of the pests of house plants. Even though the ladies would pay a minimal charge for this service, and the spraymen could sell them prepackaged dipping solutions for future problems (these dipping solutions might be packaged in a manner similar to flower seeds, with pictures of types of damage and pests), perhaps the greatest benefit would be that clinics of this type would instill a professional status to the PCO-CA work in the eyes of the house plant owners.

However, the operator must know what he is doing before he can expect to be successful. He must know what plant he is dealing with as well as what pest is attacking it. If the serviceman does not recognize the arborvitae on which the pest is feeding, the homeowner is not likely to believe the serviceman when he says that

(*Continued on page W-13*)

Contract care of ornamental plants is finding ready acceptance among homeowners, and contract applicators can find lucrative sales opportunities for this service among present customers, this article advises. Furthermore, once ornamental spraying is a significant part of the CA's activities, it's natural to add contract nursery spraying to the services offered, author Snetsinger says. Many nurserymen, while experts in horticulture, are not prepared to deal with some insect pests, while spraymen are quite accustomed to dealing with such pest organisms.



Could this be just what you need to tap the potential of the outdoor comfort market?

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It will help you develop a whole new area of business—insect control at estates, in parks and outdoor recreation areas for living and playing comfort.

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Or, how many different outdoor jobs it'll help you do in one day that you couldn't before because of cumbersome equipment.

It has a colorful plastic tank that holds 2¾ gallons of spray. There's a 3 hp, 2-cycle, air cooled engine which uses a gasoline-and-oil mixture. Efficient muffler assures quiet running.

Adjustable nozzle cap deflects air stream up, down, right or left. Or it's removable for straight-ahead discharge.

Also available is duster Model 412—adaptable for dusting, wet-dusting, as well as mist spraying. Write us for more information about the Hudson 411—or 412.

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Turf Maintenance, Renovation Guide Available from Ryan

A compact and convenient guide to equipment for turf maintenance and renovation is now available from Ryan Landscaping Equipment Co. Brochure also features recommended procedures for professional lawn care.

Included in the Ryan line of specialized, heavy-duty turf equipment is the firm's new Motoraire, now available in two models. Operating under normal conditions, the Motoraire will core and aerate more than 10,000 sq. ft. per hour, the firm claims. Hollow tempered steel tines eject sharp, uniform soil cores, according to Ryan, and specially engineered spring-action mounting prevents tearing turf, taking all cores at right angles on 6″ centers.

Controlled aeration holds water and fertilizer while promoting deeper root growth, to build thicker, healthier turf.

To complete preparations for high-quality turf, Ryan recommends following Motoraire treatment, which eliminates compaction, with the company's Ren-O-Thin, which removes thatch and thins dense turf.

Ren-O-Thin slices turf smoothly and evenly, Ryan claims, and has a positive-acting depth selector and wide variety of reel assemblies. Machine lifts out thatch at set depth and controls running stem grasses. Slicing allows air, moisture, and fertilizer to reach root systems for even, vigorous turf growth.

Center roller on the Ren-O-Thin prevents scalping, Ryan reports,

Ruggedly built, lightweight Ren-O-Thin, from Ryan Landscaping Equipment Co., has specially shaped knives to remove thatch, thin dense turf.

Ryan's Motoraire is equipped with a 3 hp., recoil starter engine, and features a roller chain, V-belt drive. Self-cleaning ½″ hollow tempered steel tines eliminate compaction.

and machine also has a snap-out handle that mounts on either end for forward or reverse reel application.

For a more complete guide to expert turf renovation and maintenance, write to Ryan Landscaping Equipment Co., 871 Edgerton St., St. Paul 1, Minn., and ask for the firm's illustrated brochure on turf equipment. The 6-page bulletin, with specifications on each of Ryan's products, is available without cost to all contract applicators.

Okay Thiodan for Tree Pests

Thiodan insecticide, a product of Niagara Chemical Div., FMC, has been granted U.S. Department of Agriculture registration for use in controlling aphids on shade trees and Taxus bud mites on Taxus.

New registration marks the initial use of Thiodan on shade trees, although the chemical has been registered for control of aphids, whiteflies, and cyclemen mites on ornamentals for some time, Niagara reports.

Many other shade tree and ornamental uses for Thiodan have appeared promising in field and laboratory tests, and are expected to become commercial in the near future, according to Niagara.

Recommendations for use of Thiodan on both shade trees (for aphids) and Taxus (for Taxus bud mites) call for 0.5 lbs. actual chemical per 100 gallons of water. Either the wettable powder or emulsifiable concentrate forms can be used, the manufacturer notes.

For more information on Thiodan, write Niagara Chemical Div., FMC Corp., 100 Niagara St., Middleport, N.Y.

Nitrogen Aids Turf Growth

"Turf demands more nitrogen than any other 'crop' because of its rugged conditions of existence," Dr. Victor Younger, turf expert from the University of California in Los Angeles, told delegates to the recent meeting of the California Fertilizer Conference.

"Grasses are subject to regular and frequent defoliation, through mowing; they have almost constant traffic, which damages plant tissue and compacts soil; and the unusual amount of water they're given washes minerals down through the soil," Dr. Younger revealed.

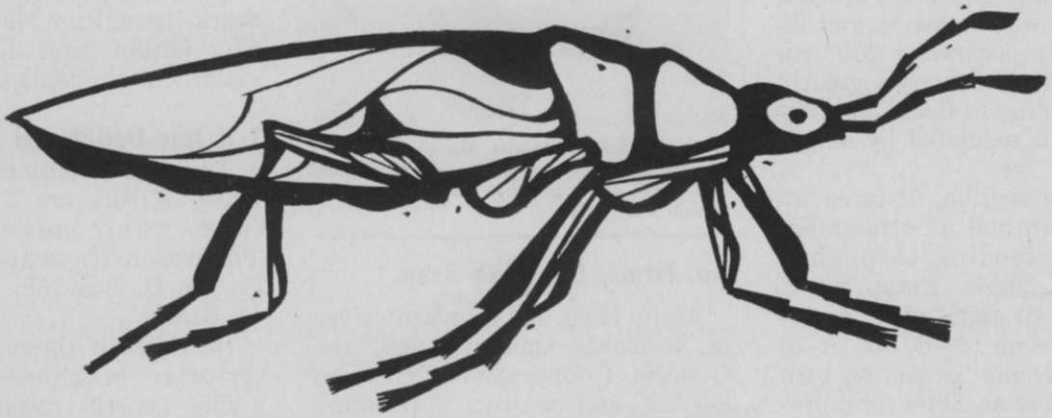
To combat these conditions, he recommended spring and fall application of a complete fertilizer, at 4 lbs. of nitrogen for each pound of phosphorus and potash (a 4:1:1 ratio). "During the rest of the year a simple nitrogen material may be used," Dr. Younger added.

Full-time secretary of the Southern California Turfgrass Council is Mrs. Marie Trowbridge, former secretary for the Equipment and Materials Educational Exposition.

Calif. Council Has Secretary

"Service and educational activities of the Southern California Turfgrass Council have progressed so far that a full-time, professional secretary has become mandatory," the Council, P. O. Box 102, Mira Loma, Calif., announced recently.

New secretary, Mrs. Marie Trowbridge, will coordinate the many new services and educational projects of the Council. Mrs. Trowbridge was formerly secretary of the Equipment and Materials Educational Exposition, sponsored by the Council in association with the University of California Agricultural Extension Service.



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Ethion kills chinch bugs . . . ends destruction to lawns, parks and fairways. Ounce-for-ounce no pesticide outperforms it. Tests show just one application gives outstanding results and provides total control. And Ethion is easy-to-use, safe, economical, long lasting. U.S.D.A.-approved to curb sod webworms, halt mites in Bermuda grass, too. Write or call your supplier today for details.

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TECHNICAL CHEMICALS DEPT., NIAGARA CHEMICALS DIVISION, MIDDLEPORT, NEW YORK

John Bean Models Rotomist 100

Growing application and popularity of Rotomist sprayers has led to the addition of another model to the John Bean line, the firm announced recently.

New Model 100 has increased stability through careful balance of tank and trailer, the manufacturer claims. An aircraft-type wheel and control column operate the 100° blower elevation and its hydraulically controlled 360° rotation. Control is thereby greatly eased, according to Bean, and flow of material is regulated by only a foot pedal.

Discharge section features an axial-flow fan and air-straightening vanes, feeding through a Micro-Mist nozzle. Pump has a capacity of 10 gpm, with adjustable pressure up to 400 lbs. A 70 hp. Willys engine is said to turn the 29″ blower at 2,600 rpm, producing air velocity of more than 100 mph.

For more information on the new Model 100 John Bean Rotomist, or a list of distributors, write the firm at P.O. Box 9490, Lansing 9, Mich.

New John Bean Rotomist, with an air velocity of more than 100 mph, can rotate a complete 360° with great accuracy and balance, the manufacturer claims.

Ga. Firms, CAs Plan Assn.

More than 60 representatives of herbicide manufacturers, the Georgia Cooperative Extension Service, and contract applicators met recently in Athens, Ga., to discuss plans to create a statewide organization.

Prospective group would work, by educational means, to help reduce the estimated $87 million annual loss from weeds in Georgia.

Temporary officers were appointed for the fledgling group, and include Tom O. Evrard, Diamond Alkali Co., Hampton, Ga., as chairman, and Don Campbell, Swift and Co., Atlanta, secretary. Named to a committee to form suggested by-laws and possible names for the new organization were J. R. Johnson, head of the Extension Agronomy Department; Stark Hand, from Newton-Crouch Co., Griffin; and James Miller, extension agronomist.

T-H Has Ded-Weed Folders

Two new folders on Ded-Weed Brush Killers are available free from their manufacturer, Thompson-Hayward Chemical Co., P. O. Box 768, Kansas City 41, Mo.

Included in these colorful, descriptive brochures are tables giving general recommendations on brush killers most effective for foliage applications on some species of woody plants, as well as control timing relating to different sizes of plants. Dosage recommendations are given for basal, stump, and frill applications.

Here's the Easy, Automatic-Reading SOIL TEST KIT You Want

Impresses Your Trade, Increases Your Sales

Easy As Reading A Thermometer

10-Minute Tests — on the spot if desired

Instant Answers — No Waiting for Reports

No technical advice needed — no puzzling "parts per million" to interpret! Color charts tell how to correct acidity, how much fertilizer to use for best results. Lifetime steel chest, makes 200 tests for nitrogen, phosphorus, potash, and acidity. Complete instruction book included. Money-Back Guarantee. Your check now saves $1.91 to $3.55 in delivery charges — the Sudbury Lifetime Soil Test Kit is only $29.95 postpaid by return mail.

SUDBURY LABORATORY, Box 1116, Sudbury, Mass.

Separate Units of Soluble Nitrogen, Phosphorus and Potash available—ask about Tailor-Made Fertilizer for blending.

XL Turf Special 28-7-14

Water-Soluble Fertilizer

Provides better control of growth, texture, and color. Starts to work almost instantly, feeding through the blades and roots of grass. Can be applied at critical periods of growth without burning. Compatible with most common insecticides and fungicides.

For complete information on XL Turf Special and other products for the custom applicator, write:

Doggett Fison Company

Springfield New Jersey

Nursery, Ornamental Jobs

(*from page W-8*)

bagworms are causing the damage. Any training program for servicemen must teach the ornamentals as well as the pests. Actually, knowing the host is usually the easiest way of knowing the pest. Each ornamental species has a collection of a dozen or so common diseases, insect and mite pests, and other problems. Thus, knowing the host makes simple the task of determining the problem, be it animal pest, disease, mechanical, or physiological.

Spraymen must sell the idea of an inspection-and-treatment service on a contract basis to be able to really make a go of the ornamental pest control business. Operators must also have contracts with a considerable number of ornamental owners with similar problems. Then one can afford experts on ornamental pest control as servicemen, can establish routes for treating particular pests at the correct season, and can make best use of time and equipment.

Railway Weed Control

(*from page W-7*)

analyze all factors in the contract before accepting it. (Maybe the rig can be leased.) This is big business, but it can bring big headaches as well as big profits!

Railroads have been known to engage CAs to apply materials using the railway's own equipment. If such an opportunity presents itself, it's a good way to get experience.

Local yard and siding jobs offer another relatively safe means to edge into the market. Less chemicals, smaller equipment, and fewer men are necessary for these projects; consequently there is less risk (of course, there's also less profit).

Since so much of this large-scale business is let out on bid, it behooves every operator to have bull's-eye accuracy in cost analysis. A very low bid might get the contract, but fail to show any monetary gains.

Astute CAs who want some railroad business must also familiarize themselves with the labyrinthine purchasing procedures the railways use. America's freight handlers grew into industrial giants long before "systems analysis" and "efficiency experts" came around, and sometimes the old methods still persist.

In short, there is no doubt that CAs are presently making money spraying weeds along thousands of miles of tracks. Since contractors account for nearly half the total weed and brush control done each year, opportunities for profit and service abound. But as with any industrial enterprise of such magnitude, the business must be approached carefully, after great analysis and preparation.

Geigy Has Diazinon Bulletin

A new, 24-page technical bulletin on the uses of diazinon is now available from Geigy Agricultural Chemicals, P.O. Box 430, Yonkers, N.Y.

Included in the guide are toxicology listings, registration charts, tabulations of experiments, and directions and specifications for each of the diazinon formulations Geigy is now producing.

CAs may obtain a free copy of the brochure, titled "Diazinon Technical Bulletin No. 63-1," simply by writing the manufacturer.

VICHEM FUNGICIDES & HERBICIDES

for treatment and maintenance of fine turf

These specialty products, developed specifically for golf course and park use, are now available for the treatment and control of fine turf grasses. VICHEM research in agricultural chemicals has produced such outstanding developments as DSMA—DiSodium Methyl Arsonate; AMA—Ammonium Methyl Arsonate; CPA—Calcium Propyl Arsonate; CALAR— Calcium Acid Methyl Arsonate.

. . . the finest chemicals to protect your finest turf.

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LIQUIPHENE 10% & 33⅓% (PMA)
THIURAM 75 (Thiram 75%)
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THIURAM M (Thiram-Mercury)

HERBICIDES

• for Crabgrass and weed control
CRAB-E-RAD (Powder) DSMA
SUPER CRAB-E-RAD (Liquid) AMA
SUPER CRAB-E-RAD + 2 (Liquid) AMA + 2,4,D
SUPER CRAB-E-RAD (Calar)
CRAB-E-RAD 30 (Liquid) DSMA

• for Dallis grass control
DAL-E-RAD 100 (Powder) DSMA
SUPER DAL-E-RAD (Liquid) AMA
SUPER DAL-E-RAD + 2 (Liquid) AMA + 2,4,D
DAL-E-RAD 30 (Liquid) DSMA

Distributor Inquiries Invited

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VINELAND CHEMICAL SALES CORPORATION

Manufacturing Plants: Vineland, New Jersey ▪ Palmer, Puerto Rico

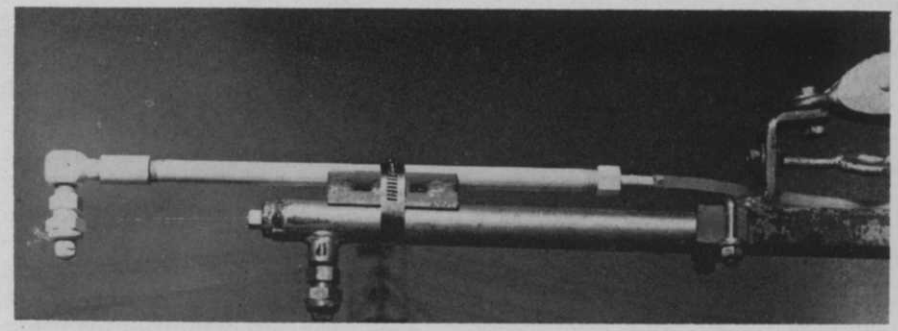
Stop Boxwood Nematodes

Poor growth, low vigor, yellowing or bronzing of the foliage, and ends of stems dying on boxwood are symptoms of nematode infestation. Nematode-damaged roots will be browning, and many of them will be dead.

Best cure for nematodes, according to John H. Harris, entomologist at North Carolina State College, Raleigh, is to treat boxwood with Nemagon. Follow label directions carefully, he advises.

Leaf minors, small, yellowish maggots which burrow inside leaves, will pupate and emerge on the underside of leaves in late spring. One application of lindane, DDT, or dieldrin should control them, Harris reports. To guarantee control he advises 2-3 sprayings at 2-week intervals, beginning when new growth starts.

Mites, or red spiders, will sometimes accumulate during hot, dry weather. Malathion, applied 3 times at 6-day intervals, should eliminate these pests, Harris believes. The entomologist also recommends Trithion, Kelthane, and Ovotran.



Boom end dye marker by Contree Sales is designed to leave a convenient guide for CAs to follow when spraying. Harmless red dye is used to mark where area has been sprayed.

Dye Marker Insures Even Spray

CAs who want and expect a uniform spray application should use a dye marker as a guide, Howard Rasmussen, of Contree Sales, recommends.

Rasmussen points out that missed areas leave weed and insect problems, while double spraying can frequently cause crop damage, as well as take up valuable time.

A boom sight marker, available from Contree Sales, will eliminate these problems, Rasmussen claims. With a boom sight marker, a harmless red dye is ejected through either end of the nozzle, leaving a convenient guide to follow on the next swath. Marker can be run in a continuous band, or just spotted, as the operator prefers, the firm announced.

Other equipment for the weeds and turf industry from Contree Sales includes a ground-driven granular simazine applicator. Built by the Gandy Co., the applicator spreads bands from 14″ to 20″ wide, and can be pulled by hand or mounted behind power equipment.

For more information on the products available from Contree Sales, write to P.O. Box 129, Columbus, Wis.

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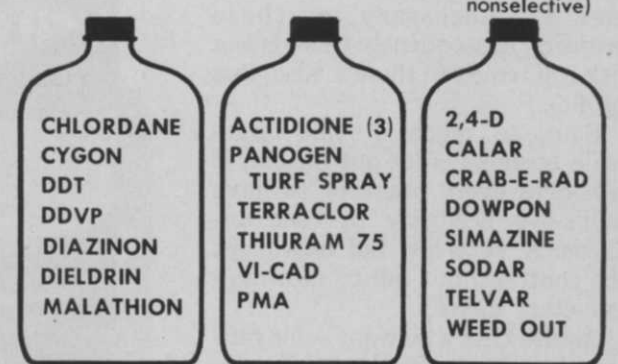

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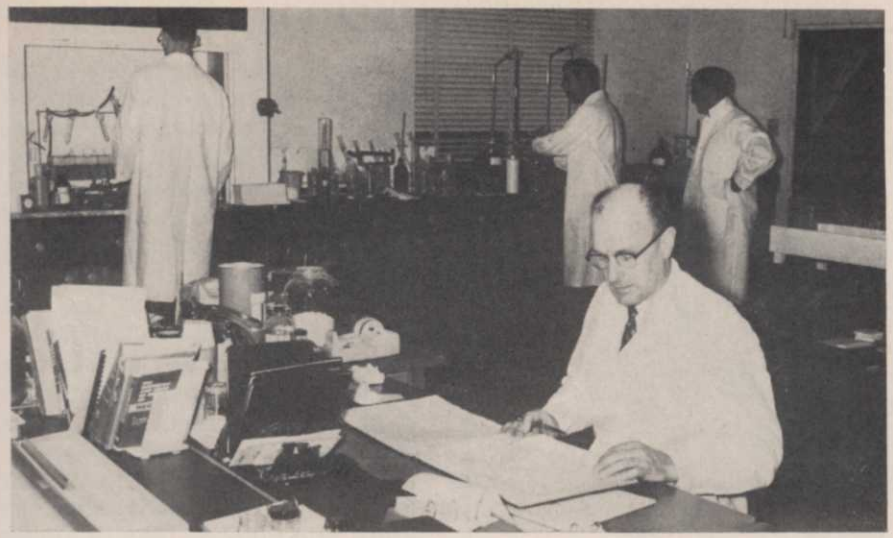

Modern laboratory facilities and personnel of the Vineland Chemical Co. enable the firm to test rapidly new compounds which the company is developing, according to its officials. Seated in the foreground is Norman Kropf. Left to right in the background are researchers Charles Fisher, James Nicholas, and Chief Chemist H. Porter Loomis.

Expanded Laboratory Facilities Spur Vineland Chemical's Growth

Typical of companies which have grown up with the burgeoning weed control and turf maintenance market is Vineland Chemical Co., which is now operating a greatly expanded research laboratory on the firm's campuslike grounds in Vineland, N.J.

Founded in 1948 by Dr. Arthur Schwerdle, a chemist and expert on arsenicals, Vineland reports it has tripled in size in the last five years, and plans continued growth based on "new-idea-oriented" management.

Three years ago, the herbicide and fungicide manufacturing company opened a new plant in Puerto Rico, and has acquired land for further expansion in Malaga, N.J., company spokesmen announced recently.

Vineland's rapid growth into a major supplier to the turf management industry was spurred by development of several unique, patented compounds, which the firm markets itself, and repackages for other suppliers.

Gustave Hulkower, Vineland's general manager, told *Weeds and Turf* the company maintains its own maintenance shop on the 30-acre plant site. This "autonomous" maintenance has permitted Vineland to custom-design much of its manufacturing facilities, he added.

Dr. Schwerdle, who is now president of the New Jersey company, spends much of his time developing new chemicals which can be immediately applied to the turf industry, after extensive testing in the new Vineland lab, Hulkower said.

Meeting Dates

Purdue Weed Day, Purdue University, Lafayette, Ind., June 17-18.

3rd Annual Meeting, Fla. Society of Golf Course Superintendents, Jacksonville, June 18-20.

American Society of Landscape Architects Annual Meeting, Penn-Sheraton Hotel, Pittsburgh, Pa., June 23-26.

USDA Field Day for industrial cooperators. Plant Industry Station, Beltsville, Md., July 10.

American Assn. of Nurserymen Annual Convention, Shamrock Hilton Hotel, Texas, July 20-24.

Alabama Nurserymen / Southern Nurserymen Annual Convention, Hotel Admiral Semmes, Mobile, Aug. 4-6.

International Shade Tree Conference, Royal York Hotel, Toronto, Ontario, Canada, Aug 4-6.

11th Annual University of Florida Turfgrass Management Conference, University of Florida, Gainsville, Aug. 27-29.

Nurserymen and Growers Annual Short Course, University of Florida, Gainesville, August 28-30.

Midwest Turf Field Day, Purdue University, Lafayette, Ind., Sept. 9 (repeated Sept. 10).

70th Annual Farm Equipment Institute Convention, Roosevelt Hotel, New Orleans, La., Sept. 29-Oct. 2.

Metaldehyde "Safe" Slugkiller

A private research firm in England, after studying the effectiveness and usefulness of the 11 most popular brands of slugkillers in that country, reports that those mixtures containing metaldehyde were generally the best.

"Metaldehyde acts as both a contact poison and as a stomach poison," the group concluded its recommendations, "and for maximum effectiveness, a mixture that encourages slugs to ingest it should be used."

New KWH TWIN TANK model

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Spray, dust, wet-dust, and apply granules with the same machine; no extra attachments needed.

NO DISMANTLING OR REBUILDING — Two separate back tanks and the exclusive KWH 'non-clog' nozzle permit single or simultaneous application of wet and dry chemicals. Cover up to ***40 ft. swaths.*** Simple fingertip controls give precise regulation of output and allow instant switching from liquid to dust or granules and vice-versa. Sturdy all-metal construction yet ***only 27 lbs.***

— Choose from 1 and 4 HP DIRECT DRIVE models —

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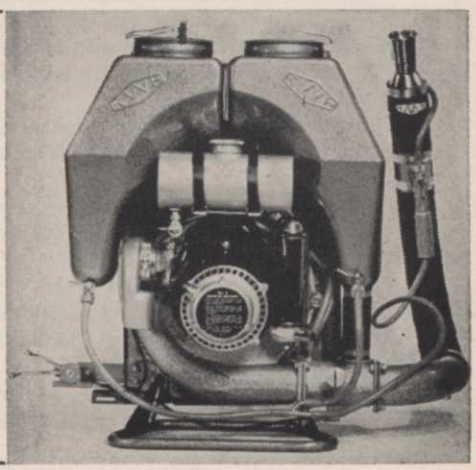
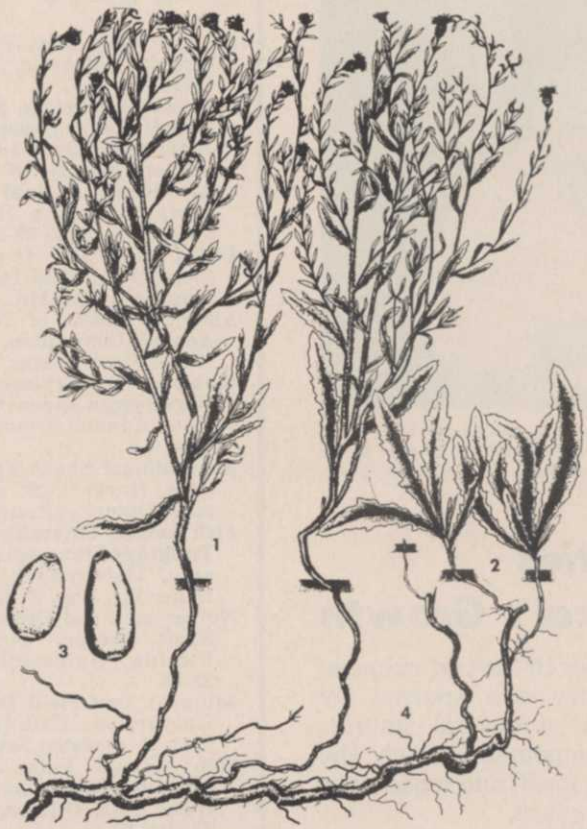


Know Your Species

RUSSIAN KNAPWEED

(Centaurea repens)



Russian knapweed, sometimes called Turkistan thistle, is an extensively rooted perennial which reproduces both by seed and by widespread creeping roots. Found on waste areas, fields, and roadsides, it thrives in semi-arid or dry land environments. Russian knapweed ranges south from the Dakotas to Missouri and west to the Pacific. Arms of its range extend into Texas and Michigan. It is subject to restrictive legislation throughout its distribution, and becomes more abundant and serious further west. Native of southwestern Russia and Asia Minor, it is believed that seeds of this pest were introduced in shipments of alfalfa seed around 1900.

Finely grooved stems (1) may grow to a height of 3 feet. They are densely hairy with some woody tissue, although Russian knapweed is not a true woody plant. Branching is frequent near the plant base.

Lower leaves are larger and more scalloped; they resemble dandelion leaves, except that knapweed is more hairy. They appear to sit directly on the stem, but gradual narrowing of the leaf results in a short petiole (leaf stalk). Topmost leaves are somewhat willow-like, narrow and smooth-edged.

Each branch of a stem bears a single head of flowers. What appears to be a "flower" of Russian knapweed (and also the rest of the family Compositae) is actually a head of many tiny tubular flowers. Each head of flowers is about ½ inch in diameter; colors vary from rose to purple to blue.

Each tiny flower produces one seed (3). It measures ⅛ inch long and is colored gray-white. Small longitudinal ridges may be seen with magnification.

Creeping roots (4), from which new plants arise, are extensive and sturdy in established stands. New stems are produced from lateral shoots at various depths (2).

Chlorobenzoic acid derivatives such as TBA, sodium chlorate alone or combined with borates, monuron, and fenac are some of the powerful herbicides needed to control this stubborn weed pest.

Prepared in cooperation with Crops Research Division, Agricultural Research Service, United States Department of Agriculture, Beltsville, Maryland.

(DRAWINGS FROM NORTH CENTRAL REGIONAL PUBLICATION NO. 36, USDA EXTENSION SERVICE)

Turf Bureau Offers Bulletins

Use of organic fertilizers in turf management programs is detailed in 4 bulletins available from the Turf Service Bureau, Milwaukee Sewerage Commission, P.O. Box 2079, Milwaukee 1, Wis., one of the world's largest producers of organic fertilizers.

Bulletin No. WT-1, "The Role of Lime in Turf Management," offers CAs a detailed explanation of the liming process, including a section on plant reaction to lime and significance of this reaction, as well as practical pointers, such as methods of soil testing, and the kinds and rates of lime to apply.

Better bent grasses, especially for golf greens, and improved fairways are covered in Bulletins Nos. WT-2 and WT-3. Information and reports in these two guides will benefit every contract applicator, however, as the turf management aspects will apply to numerous other situations.

A permanent fertilization record and handbook is featured as Bulletin No. WT-4, to enable turfmen to keep detailed and accurate records of treatments.

For a free copy of all four bulletins, write to the Turf Service Bureau, Milwaukee Sewerage Commission, Milorganite Division, P.O. Box 2079, Milwaukee, Wis.

Sod Webworm Controls Given

Small brown spots in lawns, frequently attributed to Japanese beetle infestation, might be due to sod webworm attack, Dr. J. B. Polivka, research entomologist at the Ohio Agricultural Experiment Station, Wooster, cautions CAs.

Brown areas of infested lawns usually contain the larvae, found in a silken web containing chewed grass, he points out. Sod webworms feed on grass leaves just above the crown of the plant.

Materials which will effectively control this pest are Ethion or phorate at a 10-lb.-per-acre rate, Sevin at 8 lbs. per acre, or Di-Syston at 2 lbs. per acre active material, Dr. Polivka reports.

"Applied three times during the summer of 1962, these materials kept trial plots completely free from webworms," the entomologist concluded.

Bindweed treated with Tritac-D in September looks like this the following July. Rate: 5½ gal./A.

LIQUID TRITAC™

WEED KILLER

NEW ECONOMICAL WAY TO CONTROL BINDWEED

Here's a new liquid herbicide so powerful that four to eight gallons per acre will control bindweed, Canada thistle, leafy spurge, Russian knapweed and other deep-rooted perennial weeds for a season or longer.

Used along highways, fence rows and other noncrop land, Tritac enters the plant through roots and foliage. It kills deep-rooted perennial weeds under a wide range of climatic conditions.

It is noncorrosive, nontoxic to mammals, and is nonflammable.

Two formulations. Tritac for normal conditions and Tritac-D, which contains 2,4-dichlorophenoxyacetic acid, when quick foliage top kill is desired. Both are available, in one-, five- and 30-gallon containers through your distributor.

Technical help. Our agronomists will be glad to work with you on your weed control plans. For technical data and the distributor nearest you, please write Hooker Chemical Corporation, 406 Buffalo Avenue, Niagara Falls, N. Y.

HOOKER CHEMICALS® PLASTICS

AGRICULTURAL CHEMICALS

W&T Offers Book Guide on Weed, Turf, Ornamental Pest Control

CAs interested in learning more about books available on weed control, turf maintenance, and ornamentals may now send for a free copy of a guide to these publications from *Weeds and Turf's* Reader Service Department.

Listed are 16 books, including *Diseases of Turfgrass*, by Houston B. Couch; *Weed Control*, by A. S. Crafts and W. W. Robbins; and *Weed Identification and Control*, by Duane Isely.

Each listing includes title, author, publisher and publisher's address, date of publication, number of pages, and cost.

For a free copy of this useful bulletin, write Reader Service Department, *Weeds and Turf*, 1900 Euclid Ave., Cleveland 15, Ohio.

NACA Plans Oct. 27-30 Conclave

30th Annual Meeting of the National Agricultural Chemicals Association will be held at the Homestead Hotel, Hot Springs, Va., Oct. 27-30, according to Parke C. Brinkley, association president.

Registration will start Sunday, Oct. 27. There will be a general session Monday, committee meetings on Tuesday, and a Board of Directors meeting Wednesday.

For more information on the program, or advance registration forms, write H. L. Straube, 1963 program chairman, at Stauffer Chemical Co., 380 Madison Ave., New York 17, N.Y.

Retiring head of the Department of Horticulture at Michigan State University, East Lansing, Dr. Harold Tukey, views with his wife an oil portrait of the horticulturist which will hang in the Horticulture Building. More than 150 colleagues and friends joined May 4 at a dinner at MSU to pay tribute to the internationally known authority on plant growth regulators, the use of radioisotopes, and other fields.

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Trimmings

Two way street. **We've written a lot about CAs who are expanding their insecticide and herbicide spraying business to include fertilizing, and now we've just heard from a contract fertilizing company which wants to join in with the weed and insect killers! James G. McClure, who runs Fertilagitator Sales & Service in Vista, Calif., writes that he hopes his firm will soon qualify for this additional service. We have often observed that contract turf service, to be truly valuable, will include a variety of services, and we're glad Jim is helping prove our point!**

* * *

Grass is greener? Just had a note from Frank Lichtig of Gramaslindas, Cia., in Bayamon and Dorado, Puerto Rico. Frank, an all-around operator who includes a nursery and sod business with his spraying and turf installation services, writes that he follows W&T closely, and we wonder if his sunny isle doesn't need some closer editorial attention? Business must be booming in PR, if the number of operators who've set up successful businesses there is any indication.

* * *

Who's afraid of the Broward Wolf? **Water hyacinths, no doubt. A Florida correspondent informs us that Central Broward Drainage District secretary Carl Wolf has designed an ingenious spray rig which is saving his county thousands of dollars while spelling death to weeds in Broward county canals. Wolf drew up the plans for the device himself; it is one-man operated, and can spray 200 gallons of herbicides with little drift hazard. This last advantage stems from an enormous boom which extends out over the canal, and from which an operator can direct pin-pointed sprays that get right to the root of the problem. Our correspondent, Art Griffes of House & Garden Lawn Service in Ft. Lauderdale, spotted a news clipping about Carl's invention and sent it on to us. Art, by the way, is another operator who offers a complete service line to his customers, including turf renovation through mechanical means.**

* * *

Grain of salt department. Weeds are harder to grow than many other plants, and this is disturbing, says Dr. C. M. Switzer of Ontario Agricultural College, Guelph, Ont. CAs who spend their working days in an all-out battle with the undesirable plants might raise an eyebrow or two in face of this observation, Dr. Switzer says, but it's true. Why bother to grow them at all, you ask? Dr. Switzer is an authority on weed control whose garden is designed to help students identify various species. Tough part is, though, that some weeds really *are* difficult to raise, and without experimental samples, no doubt it's harder to learn how to control them . . . at this rate, some researchers might end up going around in vicious circles!

* * *

Professor Brown dies. **Benjamin A. Brown, professor emeritus of plant science at the University of Connecticut, died April 19, we just learned. Professor Brown, who was 71, was long a leading figure among American agronomists.**

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in a variety of formulations for

---insects on ornamentals

---outdoor fogging

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Penick can supply most of the pesticides you use . . . under a streamlined, personal-service system that saves you time and bothersome paperwork.

We provide a handy check-off order form and price list to simplify ordering. You get just one invoice to check. And deliveries are always prompt . . . often overnight . . . to minimize your inventory needs and eliminate irksome follow-up calls.

You'll also find our monthly PCO Newsletter a big help in keeping abreast of new developments.

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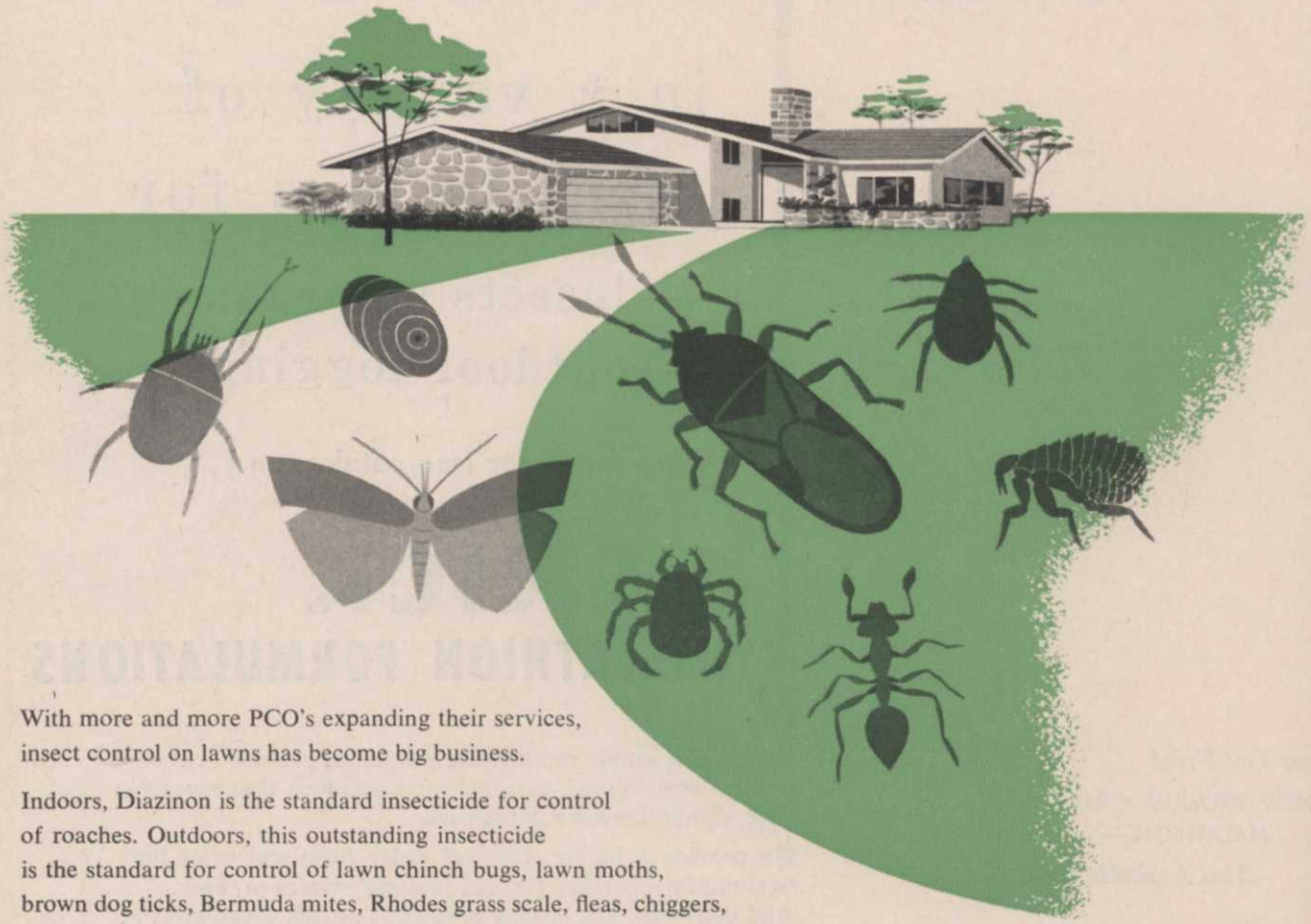

With more and more PCO's expanding their services, insect control on lawns has become big business.

Indoors, Diazinon is the standard insecticide for control of roaches. Outdoors, this outstanding insecticide is the standard for control of lawn chinch bugs, lawn moths, brown dog ticks, Bermuda mites, Rhodes grass scale, fleas, chiggers, ants and many other pests. It is recommended by agricultural authorities and lawn and turf experts everywhere.

Diazinon gives quick kill of insects attacking lawns, and provides long residual protection, with safety in use, and economy in the finished spray. Follow recommended rates and directions on the label.

Don't take chances with call-backs—depend upon Diazinon for lawn insect control. Free literature will be sent upon request. Address Department PC-36.

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